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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/509,231 | 09/24/2004 | Jiang Jon Cheng | CN 020007 | 3257 |

7590 05/04/2007
Aaron Waxler
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| EXAMINER |
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KHAN, IBRAHIM A

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| ART UNIT | PAPER NUMBER |
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2617

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05/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|-------------------------------|----------------------------------|--|
| Office Action Summary | Application No. 10/509,231 | Applicant(s) CHENG, JIANG JON | |
| | Examiner Ibrahim A. Khan | Art Unit 2617 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2004.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-9 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 24 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements submitted on 06/25/2005 has been considered by the Examiner and made of record in the application file.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

3. As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

- (I) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Drawings

4. The drawings are objected to under 37 CFR 1.83(a) because they fail to label the components (figure 1) and fail to include a description in the various steps of the flowchart (figure 2) as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by **Kotzin et al. (US 5796722)**.

Consider **claim 1 and 8**, Kotzin clearly discloses a telecommunication system comprising a base station and mobile terminals (*figure 4, abstract, column 1 lines 10-20*) which base station comprises a generator for generating channelization codes defining channels used for communication between said base station and mobile terminals (*figure 2, column 1 lines 50-59 where Kotzin discloses a CDMA network*), and which base station comprises a calculator for calculating a cost function for a channelization code, characterized in that said base station comprises a transferor for transferring an ongoing call between said base station and a mobile terminal from a first channel defined by a first channelization code to a second channel defined by a second channelization code in dependence of at least one calculated cost function (*figure 2, column 2 line 63 – column 3 line 3, column 3 lines 4-16, lines 17-20, lines 45-54, column 4 lines 39-53 where Kotzin discloses that when a mobile subscribers have been assigned to a first*

carrier the signal quality is monitored in real time and if it drops below a certain level it is handed off to another carrier within the same communication network. Note that since Kotzin discloses a CDMA network it is inherent that the two carries have different channelization codes).

Consider **claim 6**, Kotzin clearly discloses a base station for use in a telecommunication system comprising a base station and mobile terminals (*figure 4, abstract, column 1 lines 10-20*) which base station comprises a generator for generating channelization codes defining channels used for communication between said base station and mobile terminals (*figure 2, column 1 lines 50-59 where Kotzin discloses a CDMA network*), and which base station comprises a calculator for calculating a cost function for a channelization code, characterized in that said base station comprises a transferor for transferring an ongoing call between said base station and a mobile terminal from a first channel defined by a first channelization code to a second channel defined by a second channelization code in dependence of at least one calculated cost function (*figure 2, column 2 line 63 – column 3 line 3, column 3 lines 4-16, lines 17-20, lines 45-54, column 4 lines 39-53 where Kotzin discloses that when a mobile subscribers have been assigned to a first carrier the signal quality is monitored in real time and if it drops below a certain level it is handed off to another carrier within the same communication network. Note that since Kotzin discloses a CDMA network it is inherent that the two carries have different channelization codes).*

Consider **claim 7**, Kotzin clearly discloses a mobile terminal for use in a telecommunication system comprising a base station and mobile terminals (*figure 4, abstract, column 1 lines 10-20*) which base station comprises a generator for generating channelization codes defining channels used for communication between said base station and mobile terminals (*figure 2, column 1 lines 50-59 where Kotzin discloses a CDMA network*), and which base station comprises a calculator for calculating a cost function for a channelization code, characterized in that said base station comprises a transferor for transferring an ongoing call between said base station and a mobile terminal from a first channel defined by a first channelization code to a second channel defined by a second channelization code in dependence of at least one calculated cost function (*figure 2, column 2 line 63 – column 3 line 3, column 3 lines 4-16, lines 17-20, lines 45-54, column 4 lines 39-53 where Kotzin discloses that when a mobile subscribers have been assigned to a first carrier the signal quality is monitored in real time and if it drops below a certain level it is handed off to another carrier within the same communication network. Note that since Kotzin discloses a CDMA network it is inherent that the two carries have different channelization codes*).

Consider **claim 9**, Kotzin clearly discloses a processor program product for use in a telecommunication system comprising a base station and mobile terminals (*figure 4, abstract, column 1 lines 10-20*) which base station comprises a generator for generating channelization codes defining channels used for communication between said base station and mobile terminals (*figure 2, column 1 lines 50-59 where Kotzin discloses a CDMA network*), and which base station comprises a calculator for calculating a cost function for a channelization code,

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characterized in that said base station comprises a transferor for transferring an ongoing call between said base station and a mobile terminal from a first channel defined by a first channelization code to a second channel defined by a second channelization code in dependence of at least one calculated cost function (*figure 2, column 2 line 63 – column 3 line 3, column 3 lines 4-16, lines 17-20, lines 45-54, column 4 lines 39-53 where Kotzin discloses that when a mobile subscribers have been assigned to a first carrier the signal quality is monitored in real time and if it drops below a certain level it is handed off to another carrier within the same communication network. Note that since Kotzin discloses a CDMA network it is inherent that the two carries have different channelization codes*).

Consider **claim 2** and as applied to claim 1 above, Kotzin discloses that said base station comprises a sender for sending a transferring message to said mobile terminal and comprising an old channelization code and a new channelization code *figure 2, column 2 line 63 – column 3 line 3, column 3 lines 4-16, lines 17-20, lines 45-54, column 4 lines 39-53. Note that it is apparent that the an old channelization code is sent along with a new channelization code so that the mobile terminal knows that it is going to transfer from one channel to another*)

Consider **claim 3** and as applied to claim 2 above, Kotzin discloses that the mobile terminal comprises a receiver for receiving said transferring message *figure 2, column 2 line 63 – column 3 line 3, column 3 lines 4-16, lines 17-20, lines 45-54, column 4 lines 39-53 Note that it is apparent that the mobile terminal has a receiver that receives the transferring message*

from the base station otherwise the mobile station would not be able to switch communication channels.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kotzin et al. (US 5796722)** in view of **Haartsen (US 6944460)**.

Consider **claim 4** and as applied to claim 1 above, Kotzin teaches a cost function but fails particularly teach that the cost function is a function of a sum of products of an occupation parameter and a data rate for at least a specific level and divided by a data rate for a neighboring level. In the related art Haartsen discloses a cost function that has an inherent occupation parameter multiplied by data rate divided by a reference data rate (*Column 11 lines 27-38*).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Kotzin with the cost function as disclosed by Haartsen to

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accommodate the network conditions peculiar to the communications session (*column 11 lines 39-41*).

Consider **claim 5** and as applied to claim 1 above, Kotzin as modified by Haartsen disclose a cost function for a code c in layer i $\text{COST} = 1 - [\epsilon \cdot u(x)r(x)/r_{i-1}]$, with $r(x)$ being the data rate of a layer to which code x belongs, with $u(x)$ being equal to 0 if x is free and being equal to 1 if x is occupied, and with r_{i-1} being the data rate of layer $i-1$ (*Column 11 lines 27-38*).

Conclusion

7. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

8. Any inquiry concerning this communication or earlier communications from the

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Examiner should be directed to Ibrahim A. Khan whose telephone number is (571) 270-1110.

The Examiner can normally be reached on Monday-Friday from 8:00am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Ibrahim A. Khan
I.A.K./iak

04/27/2007


NICK CORSARO
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